



STIC Search Report

EIC 1700

STIC Database Tracking Number: 150032

TO: Sin J Lee
Location: 9D60
Art Unit : 1752
April 15, 2005

Case Serial Number: 10/718959

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes

=> fil reg

FILE 'REGISTRY' ENTERED AT 11:52:57 ON 15 APR 2005
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2005 American Chemical Society (ACS)

=> d his

FILE 'HCAPLUS' ENTERED AT 11:09:26 ON 15 APR 2005
 E US20040265735/PN

L1 1 S E3
 SEL RN

FILE 'REGISTRY' ENTERED AT 11:10:04 ON 15 APR 2005
 L2 3 S E1-E3

FILE 'LREGISTRY' ENTERED AT 11:26:27 ON 15 APR 2005
 L3 STR
 L4 STR

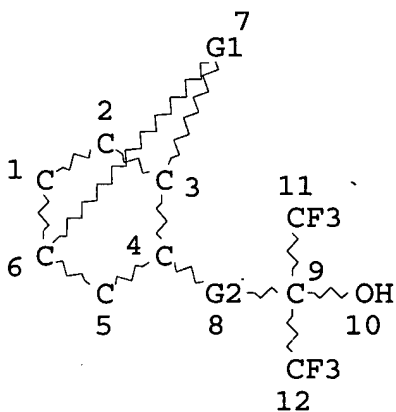
FILE 'REGISTRY' ENTERED AT 11:35:50 ON 15 APR 2005
 L5 2 S L3 AND L4
 L6 29 S L3 AND L4 FUL
 L7 1 S L6 AND L2
 SAV L6 LEE959/A

FILE 'HCAPLUS' ENTERED AT 11:43:22 ON 15 APR 2005
 L8 22 S L6

FILE 'REGISTRY' ENTERED AT 11:52:57 ON 15 APR 2005

=> d que l8

L3 STR

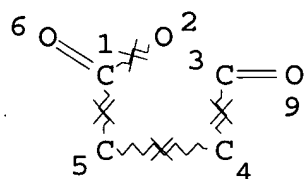


CH2 @13 CH2~CH2
 @14 15

VAR G1=13/14/O/S
REP G2=(0-2) 13
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE
L4 STR



NODE ATTRIBUTES:
NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 3
NSPEC IS RC AT 4
NSPEC IS RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

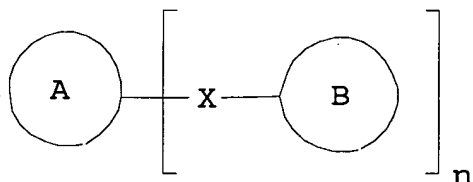
STEREO ATTRIBUTES: NONE
L6 29 SEA FILE=REGISTRY SSS FUL L3 AND L4
L8 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L6

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 11:53:14 ON 15 APR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l8 1-22 ibib abs hitstr hitind

L8 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:235479 HCAPLUS
 DOCUMENT NUMBER: 142:325910
 TITLE: Positive resist compositions and pattern formation using them for manufacture of semiconductor devices
 INVENTOR(S): Inabe, Haruki
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----
JP 2005070217	A2	<u>20050317</u>	JP 2003-297430
2003			
0821			
PRIORITY APPLN. INFO.:			JP 2003-297430
2003			
0821			
GI			



I

AB The compns. comprise (A) alkali-insol. polymers having ≥ 1 repeating units $\text{C}(\text{R}_1\text{yR}_2\text{yR}_3\text{y})(\text{CR}_4\text{yR}_5\text{yR}_6\text{y})\text{OY}$ ($\text{R}_1\text{y}-\text{R}_6\text{y} = \text{H}, \text{F}, \text{alkyl}, \text{cycloalkyl}; \geq 1 \text{ of } \text{R}_1\text{y}-\text{R}_6\text{y} = \text{F}, \text{F-substituted alkyl}$

or cycloalkyl; Y = H, organic group) showing solubility in alkali developers by the action of acids, (B) acid generators by irradiation

of actinic beam or radiation, and (C) aromatic compds. I (A, B = aromatic ring; A and B may be substituted with halo, alkyl, cycloalkyl, OH, CO₂H, or alkoxy; X = single bond, O, S, alkylene, cycloalkylene, alkenylene, arylene; n ≥ 0). Patterns are formed by forming films of the compns., exposing the films, and developing. The compns. show high sensitivity for F2 excimer laser light, good line-end shortening property, and high post-exposure delay stability.

IT 380886-63-5P 380886-66-8P

(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)

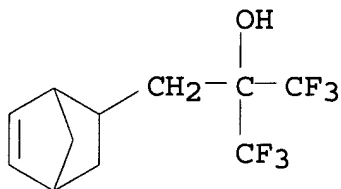
RN 380886-63-5 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with α,α-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

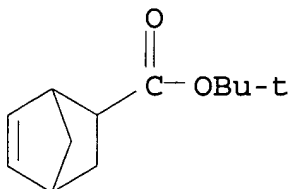
CMF C11 H12 F6 O



CM 2

CRN 154970-45-3

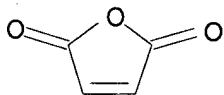
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 380886-66-8 HCAPLUS

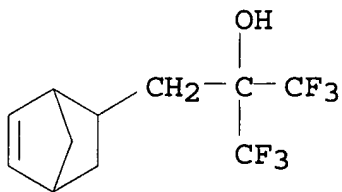
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.
 2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX

NAME)

CM 1

CRN 196314-61-1

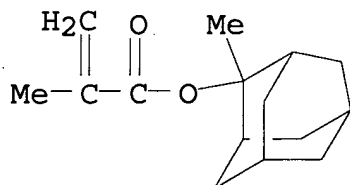
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

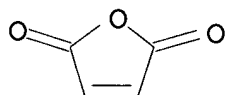
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 380886-63-5P 380886-66-8P 380886-81-7P

430437-18-6P 430437-33-5P 847986-69-0P

(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)

L8 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:98956 HCAPLUS

DOCUMENT NUMBER: 142:207614

TITLE: Photoresist polymer and photoresist composition containing the same

INVENTOR(S): Lee, Geun Su; Bok, Cheol Kyu; Moon, Seung Chan; Shin, Ki Soo; Kim, Jae Hyun; Kim, Jung Woo; Lee, Sang Hyang; Kang, Jae Hyun

PATENT ASSIGNEE(S): S. Korea

SOURCE: U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE	-----	-----	-----
US 2005026070	A1	20050203	US 2003-719905

2003

1121

PRIORITY APPLN. INFO.:

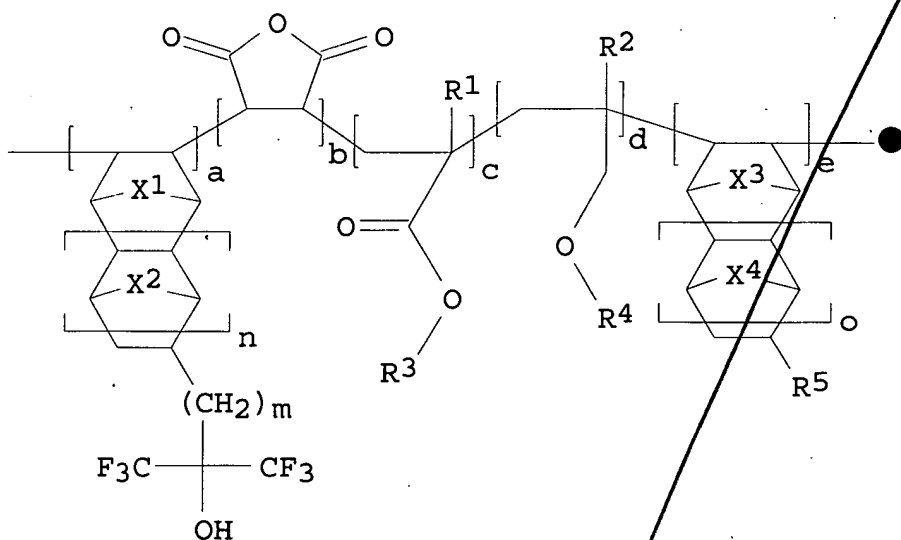
KR 2003-52337

A

2003

0729

GI



I

AB Photoresist polymers and photoresist compns. are disclosed. A photoresist polymer is represented by I (X1-4 = CH₂, CH₂CH₂, S; R_{1,2} = H, CH₃, CF₃; R₃ = C1-20 alkyl, etc.; R₄ = C1-20 hydroxyalkyl, etc.; R₅ = H, C1-20 hydroxyalkyl, etc.; m = 0-2; and n = 0, 1). The photoresist compns. have excellent etching resistance, thermal resistance and adhesive property, and high

affinity to an developing solution, thereby improving LER (line edge roughness).

IT 836623-58-6P 836623-59-7P 836623-60-0P

836623-61-1P 836623-63-3P 836623-64-4P

(photoresist polymer for photoresist composition)

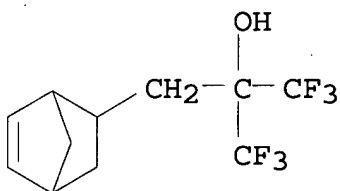
RN 836623-58-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

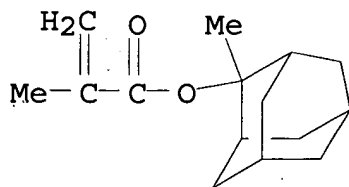
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

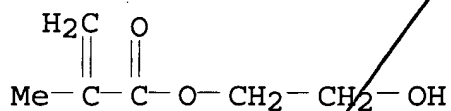
CMF C15 H22 O2



CM 3

CRN 868-77-9

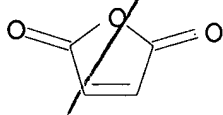
CMF C6 H10 O3



CM 4

CRN 108-31-6

CMF C4 H2 O3



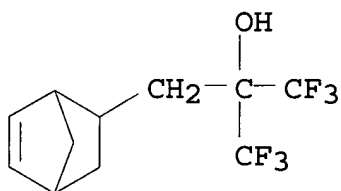
RN 836623-59-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

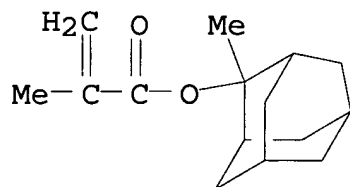
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

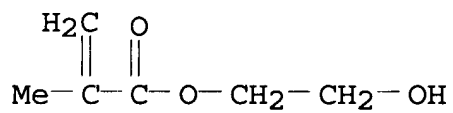
CMF C15 H22 O2



CM 3

CRN 868-77-9

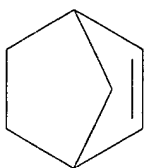
CMF C6 H10 O3



CM 4

CRN 498-66-8

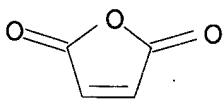
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



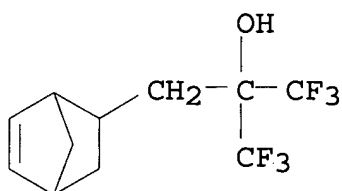
RN 836623-60-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer
with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-
ethanol, 2,5-furandione and 2-hydroxyethyl 2-methyl-2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

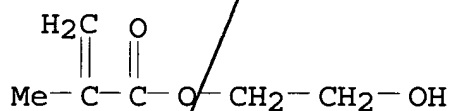
CMF C11 H12 F6 O



CM 2

CRN 868-77-9

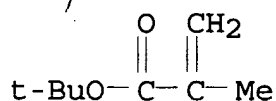
CMF C6 H10 O3



CM 3

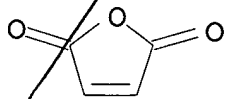
CRN 585-07-9

CMF C8 H14 O2



CM 4

CRN 108-31-6
CMF C4 H2 O3

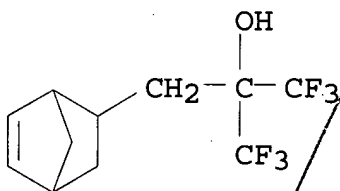


RN 836623-61-1 HCAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.1]hept-5-ene-2-ethanol, 1,1-dimethylethyl 2-methyl-2-propenoate, 2,5-furandione and 2-hydroxyethyl 2-methyl-2-propenoate (9CI)
(CA

INDEX NAME)

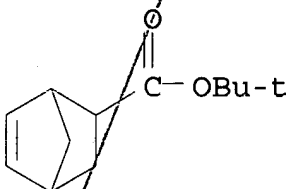
CM 1

CRN 196314-61-1
CMF C11 H12 F6 O



CM 2

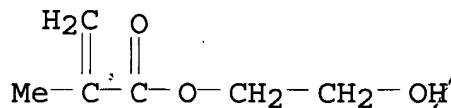
CRN 154970-45-3
CMF C12 H18 O2



CM 3

CRN 868-77-9

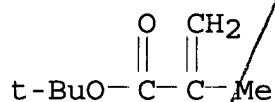
CMF C6 H10 O3



CM 4

CRN 585-07-9

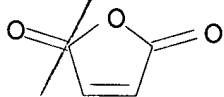
CMF C8 H14 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



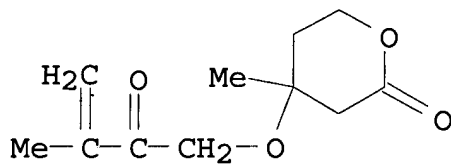
RN 836623-63-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and tetrahydro-4-methyl-4-[(3-methyl-2-oxo-3-butenyl)oxy]-2H-pyran-2-one (9CI) (CA INDEX NAME)

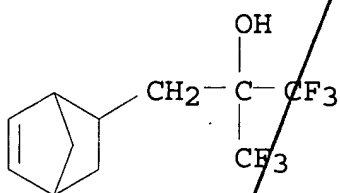
CM 1

CRN 836623-62-2

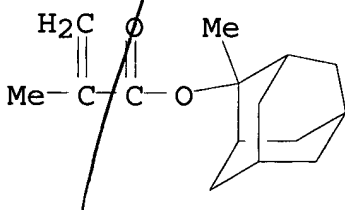
CMF C11 H16 O4



CM 2

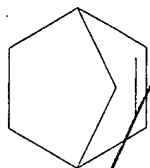
CRN 196314-61-1
CMF C11 H12 F6 O

CM 3

CRN 177080-67-0
CMF C15 H22 O2

CM 4

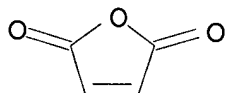
CRN 498-66-8
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



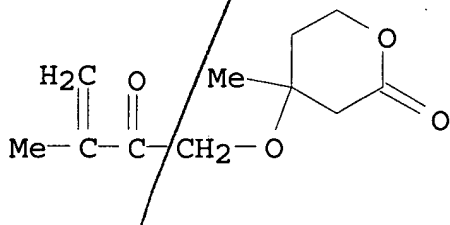
RN 836623-64-4 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-4-[(3-methyl-2-oxo-3-butenyl)oxy]-2H-pyran-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 836623-62-2

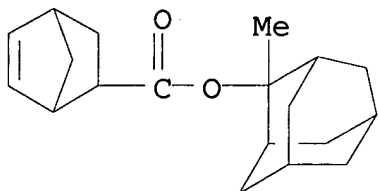
CMF C11 H16 O4



CM 2

CRN 328087-85-0

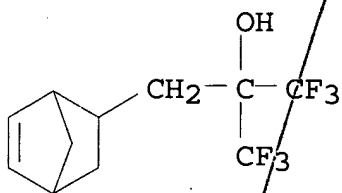
CMF C19 H26 O2



CM 3

CRN 196314-61-1

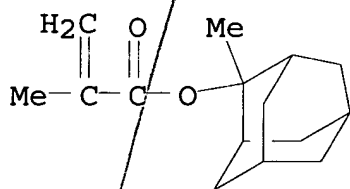
CMF C11 H12 F6 O



CM 4

CRN 177080-67-0

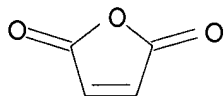
CMF C15 H22 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03C001-76
 NCL 430270100
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 IT 836623-58-6P 836623-59-7P 836623-60-0P
 836623-61-1P 836623-63-3P 836623-64-4P
 (photoresist polymer for photoresist composition)

L8 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:1976 HCAPLUS
 DOCUMENT NUMBER: 142:103156
 TITLE: Photoresist polymer and photoresist
 composition containing the same
 INVENTOR(S): Lee, Geun Su
 PATENT ASSIGNEE(S): S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 9 pp..
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
US 2004265735	A1	20041230	US 2003-718959

2003

1121

PRIORITY APPLN. INFO.:

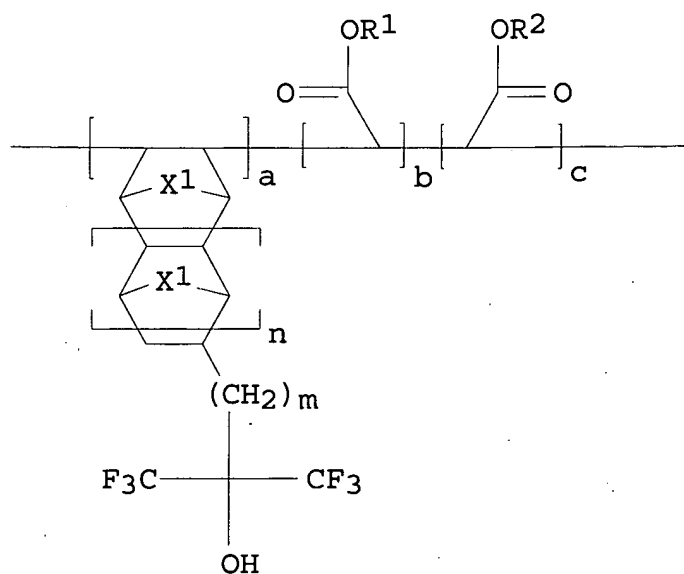
KR 2003-42561

A

2003

0627

GI



AB Photoresist polymers and photoresist compns. are disclosed. A photoresist polymer represented by Formula I ($X_{1,2} = CH_2, CH_2CH_2, O, S$; $R_1 =$ acid labile protecting group, C1-20 alkyl, cycloalkyl; $R_2 = H, C1-20$ alkyl, C5-10 cycloalkyl, etc.; $m = 0-2$; $n = 0,1$;

the

relative ratio of a:b:c is in range of 50 mol %: 20-50 mol %:

0-30

mol %) and a photoresist composition containing the same have

excellent

etching resistance, thermal resistance and adhesive property, and high affinity to an developing solution, thereby improving LER

(line

edge roughness).

IT 357397-09-2DP, hydrolyzed and reaction product with thionylchloride then Me adamantanol

(photoresist polymer for photoresist composition)

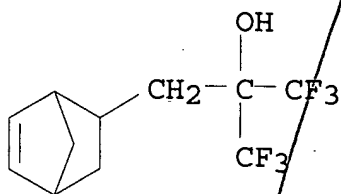
RN 357397-09-2 HCAPLUS

CN 2,5-Furandione, polymer with α, α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

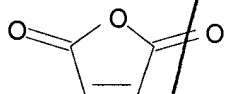
CMF C11 H12 F6 O



CM 2

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03C001-76

NCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38

IT 702-98-7DP, 2-Methyl-2-adamantanol, reaction product with hydrolyzed Maleic anhydride-norbornene hexafluoro isopropylalc. copolymer and thionylchloride **357397-09-2DP**, hydrolyzed and reaction product with thionylchloride then Me adamantanol (photoresist polymer for photoresist composition)

L8 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:928772 HCAPLUS

DOCUMENT NUMBER: 141:403469

TITLE: Norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivatives for fluoropolymers for resists, and pattern formation using the resists

INVENTOR(S): Komoritani, Haruhiko; Miyazawa, Satoru; Kawamura, Katsunori; Kobayashi, Satoru; Maeda,

Kazuhiko

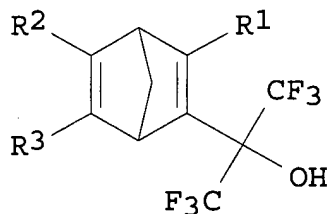
PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

DOCUMENT TYPE: CODEN: JKXXAF
LANGUAGE: Patent
FAMILY ACC. NUM. COUNT: Japanese
PATENT INFORMATION: 1

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 2004307447	A2	20041104	JP 2003-135228
US 2004225159	A1	20041111	US 2004-781844
US 6858760	B2	20050222	JP 2003-43496
			A
			JP 2003-135228
			A

OTHER SOURCE(S): MARPAT 141:403469
GI



I

AB The norbornadienes are I [R1-R3 = H, (fluoro)alkyl, F, C(CF3)2OH; ≥ 1 of C(CF3)2OH may be protected with (F-, O-, N-, or CO-containing) C1-25 (cyclic) hydrocarbyl, (F-, O-, N-, or CO-containing)

aromatic hydrocarbyl]. In the hydroxy-containing derivs., ≥ 1 of R1-R3 are OH. In the polymerizable group-containing derivs., ≥ 1 of R1-R3 are R13R12C:CR10R11 [R10-R12 = H, F, C1-25 (cyclic) (fluoro)alkyl; R13 = CH2, C2-20 (cyclic) (fluoro)alkylene, O, S, CO2, dialkylsilylene]. The resists

containing the norbornadienes and/or the derivs. show high sensitivity to vacuum-UV regions.

IT 787553-34-8P

(manufacture of norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)

RN 787553-34-8 HCAPLUS

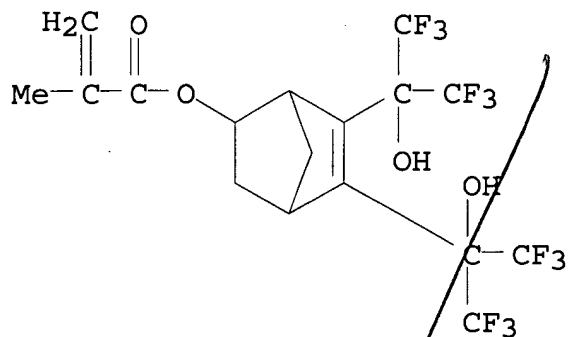
CN 2-Propenoic acid, 2-methyl-, 5,6-bis[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]bicyclo[2.2.1]hept-5-en-2-yl ester, polymer

with 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 787553-31-5

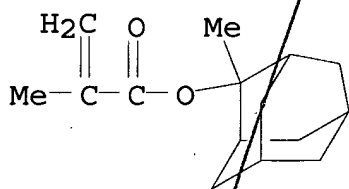
CMF C17 H14 F12 O4



CM 2

CRN 177080-67-0

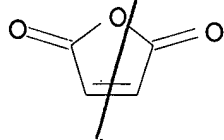
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM C07C033-44

ICS C07C035-52; C07C043-196; C07C069-533; C07C069-54;
C08F032-02;

C08G061-08; G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 24, 35, 38

IT 107-30-2DP, Methoxymethyl chloride, reaction product with hexafluorohydroxyisopropylbicycloheptadienyl methacrylate homopolymer 787553-33-7DP, reaction product with methoxymethyl chloride 787553-33-7P **787553-34-8P** 787571-60-2P 787571-61-3P

(manufacture of norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)

L8 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:412905 HCAPLUS

DOCUMENT NUMBER: 140:424105

TITLE: Fluorine-containing vinyl ethers, their polymers, and resist compositions using such polymers

INVENTOR(S): Kobayashi, Satoru; Maeda, Kazuhiko; Tsujishita, Tooru

PATENT ASSIGNEE(S): Central Glass Company, Limited, Japan

SOURCE: PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

WO 2004041762	A1	20040521	WO 2003-JP13924
2003			
1030			
W: KR, US			
JP 2004155680	A2	20040603	JP 2002-320871
2002			
1105			
JP 2004231815	A2	20040819	JP 2003-22925
2003			
0131			
PRIORITY APPLN. INFO.:		JP 2002-320871	A

2002

1105

JP 2003-22925

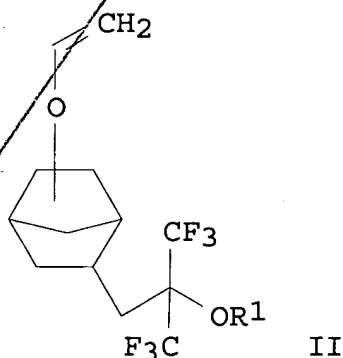
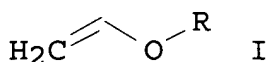
A

2003

0131

OTHER SOURCE(S):
GI

MARPAT 140:424105



AB The invention relates to a fluorine-containing vinyl ether represented by the formula (I), wherein R = an organic group containing at least one fluorine atom and a cyclic structure. The invention further relates to a fluorine-containing copolymer containing (a) a first unit derived from a first monomer that is a fluorine-containing vinyl ether represented by the formula (II) where R₁ = H or C1-8 alkyl group that optionally contains an oxygen atom; and (b) a second unit derived from a second monomer that is at least one selected from acrylic esters and methacrylic esters.

IT **691870-46-9P**

(fluorine-containing vinyl ethers, their polymers, and resist comps. using such polymers)

RN 691870-46-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl

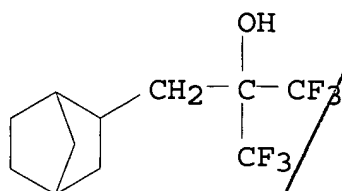
ester, polymer with 5(or 6)-(ethenyloxy)- α,α -bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 634200-89-8

CMF C13 H16 F6 O2

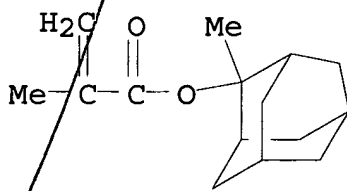
CCI IDS



CM 2

CRN 177080-67-0

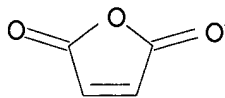
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM C07C043-192
 ICS C07C043-196; C07C043-225; C07C043-23; C07C043-172;
 C08F016-12; G03F007-039
 CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 76
 IT 634200-99-0P 691870-38-9P 691870-39-0P 691870-40-3P
 691870-41-4P 691870-42-5P 691870-43-6P 691870-44-7P
 691870-45-8P **691870-46-9P** 691870-47-0P
 (fluorine-containing vinyl ethers, their polymers, and resist
 comps. using such polymers)

L8 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:272035 HCAPLUS
 DOCUMENT NUMBER: 140:312008
 TITLE: Positive-working resist composition with
 improved precision in response to light
 INVENTOR(S): Fujimori, Toru
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 75 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 2004102019	A2	20040402	JP 2002-265400

2002

0911

PRIORITY APPLN. INFO.:

JP 2002-265400

2002

0911

AB Title resist composition comprises (A) a compound generating
 acid upon

actinic ray irradiation, (B) a fluorine-containing polymer which decomp.

and has increased solubility in alkaline developing liquid in the presence of

an acid, and (C) at least one nitrogen-containing ionic basic compound

IT 430437-11-9P

(pos.-working resist composition with improved precision in response to light)

RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA

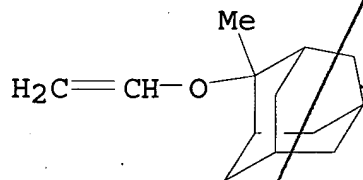
INDEX

NAME)

CM 1

CRN 430437-10-8

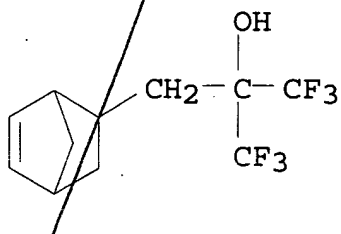
CMF C13 H20 O



CM 2

CRN 196314-61-1

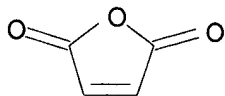
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3

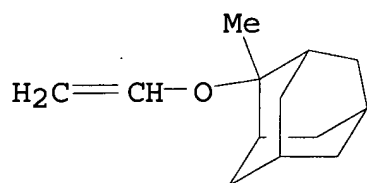


IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 109-92-2DP, Ethyl vinyl ether, reaction products with hydroxy-containing polymers 103983-46-6DP, reaction products with hydroxy-containing polymers 262617-13-0P 370866-15-2P
430436-66-1P 430436-68-3P 430436-78-5P 430436-81-0P
430436-90-1P 430436-91-2P 430436-97-8P 430436-98-9P
430437-11-9P 430437-12-0P 430437-14-2P 430437-17-5P
430437-22-2P 430437-27-7P 430437-33-5P 430437-35-7P
430437-40-4P 431062-16-7P 431062-17-8P 431062-18-9P
431062-20-3P 462109-80-4DP, reaction products 524952-70-3P
524952-73-6P 524952-74-7P 540729-51-9P 676488-04-3P
(pos.-working resist composition with improved precision in response to light)

L8 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:754897 HCAPLUS
DOCUMENT NUMBER: 139:252537
TITLE: Positive resist composition
INVENTOR(S): Fujimori, Toru
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 89 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

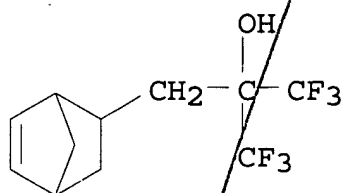
PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

CMF C13 H20 O



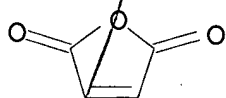
CM 2

CRN 196314-61-1
 CMF C11 H12 F6 O



CM 3

CRN 108-31-6
 CMF C4 H2 O3



IC ICM G03F007-039
 ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38

IT 109-92-2DP, Ethyl vinyl ether, reaction product with
 polyhydroxystyrene 24979-70-2DP, VP15000, reaction product with
 alkyl vinyl ether 159296-87-4P 200808-68-0P 250378-10-0P,
 Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate

copolymer 262617-13-0P 288303-55-9P 325143-38-2P
 364736-22-1P 391232-36-3P 398140-43-7P 398140-45-9P
 398140-47-1P 398140-50-6P 398140-52-8P 398140-55-1P
 398140-57-3P 398140-59-5P 398140-64-2P 398140-69-7P
 398140-73-3P 398140-77-7P 398140-78-8P 398140-79-9P
 398140-81-3P 398140-88-0P, tert-Butyl norbornenecarboxylate-
 maleic anhydride-2-methyl-2-adamantyl acrylate-norbornene lactone
 acrylate copolymer 398140-89-1P 398140-94-8P 398141-00-9P
 398141-11-2P 398141-13-4P 398141-14-5P 405509-18-4P
 430436-66-1P 430436-67-2P 430436-68-3P 430436-70-7P
 430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P
 430436-79-6P 430436-81-0P 430436-82-1P 430436-84-3P
 430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P
 430436-90-1P 430436-91-2P 430436-92-3P 430436-94-5P
 430436-95-6P 430436-97-8P 430436-98-9P 430436-99-0P
 430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P
 430437-09-5P 430437-11-9P 430437-12-0P 430437-13-1P
 430437-14-2P 430437-15-3P 430437-17-5P 430437-18-6P
 430437-19-7P 430437-21-1P 430437-24-4P 431062-12-3P
 431062-14-5P 431062-16-7P 431062-17-8P 431062-18-9P
 431062-20-3P 431062-22-5P 462109-80-4P 471257-28-0P
 503003-64-3P 597553-03-2P 597553-04-3P

(pos. photoresist composition containing)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS
 AVAILABLE

IN THE RE FORMAT

L8 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:738010 HCAPLUS
 DOCUMENT NUMBER: 139:252521
 TITLE: Negative photoresists for short wavelength
 imaging
 INVENTOR(S): Barclay, George G.; Pugliano, Nicholas
 PATENT ASSIGNEE(S): Shipley Company, LLC, USA
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
WO 2003077029	A1	20030918	WO 2003-US6532

2003

0304

WO 2003077029 C2 20031224
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG
US 2003235785 A1 20031225 US 2003-382090

2003

0304

EP 1481282 A1 20041201 EP 2003-713864

2003

0304

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
EE, HU, SK

PRIORITY APPLN. INFO.:

US 2002-361547P P

2002

0304

WO 2003-US6532 W

2003

0304

AB New neg.-acting photoresist compns. are provided that are particularly useful for imaging at short wavelengths, particularly sub-200 nm wavelengths such as 193 nm. Resists of the invention provide contrast between exposed and unexposed coating process

layer regions through crosslinking or other solubility switching mechanism. Preferred resists of the invention include a resin component that contains repeat units that facilitate aqueous base solubility

IT 600155-32-6P

(neg. photoresists for short wavelength imaging)

RN 600155-32-6 HCAPLUS

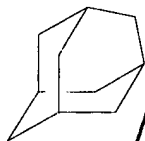
CN 2-Propenoic acid, 2-methyl-, hydroxytricyclo[3.3.1.1^{3,7}]decyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-methanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

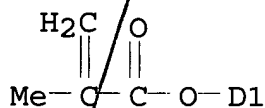
CRN 600155-31-5

CMF C14 H20 O3

CCI IDS



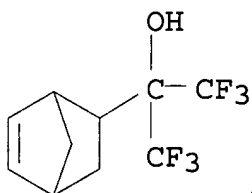
D1-OH



CM 2

CRN 369375-16-6

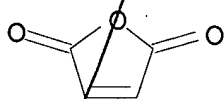
CMF C10 H10 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IT 600154-26-5P, 1,1,1,3,3,3-Hexafluoropropan-2-ol-norbornen-
maleic anhydride copolymer

(resin; neg. photoresists for short wavelength imaging)

RN 600154-26-5 HCAPLUS

CN 2,5-Furandione, polymer with α,α -
bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-methanol (9CI)

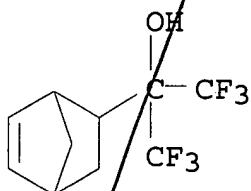
(CA

INDEX NAME)

CM 1

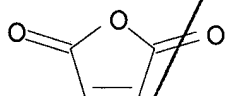
CRN 369375-16-6

CMF C10 H10 F6 O



CM 2

CRN 108-31-6
CMF C4 H2 O3



IC ICM G03C005-00
ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 600155-32-6P

(neg. photoresists for short wavelength imaging)

IT 600154-26-5P, 1,1,1,3,3,3-Hexafluoropropan-2-ol-norbornen-maleic anhydride copolymer

(resin; neg. photoresists for short wavelength imaging)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS

AVAILABLE

IN THE RE FORMAT

L8 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:735196 HCAPLUS

DOCUMENT NUMBER: 139:267983

TITLE: Positive-working photoresist composition
containing polymer with fluoro-aliphatic

group

INVENTOR(S): Fujimori, Toru

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 88 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.
-----	-----	----	-----	-----
-----	JP 2003262952	A2	20030919	JP 2002-65444

2002

0311

PRIORITY APPLN. INFO.:

JP 2002-65444

2002

0311

AB The composition contains (A) a compound generating an acid by irradiation of actinic ray, (B) a resin which decomps. by the action of an acid and whose solubility in alkaline developer increases, and (C) a polymer with fluoro-aliphatic group formed from a monomer $\text{CH}_2:\text{CR}_1\text{COX}(\text{CH}_2)_m(\text{CF}_2\text{CF}_2)_n\text{F}$ ($\text{R}_1 = \text{H, Me}$; $\text{X} = \text{O, S, NR}_2$; $m = 1-6$; $n = 2-4$; $\text{R}_2 = \text{H, C1-4 alkyl}$). Developing defect is prevented and the composition is useful for manufacture of integrated circuits, semiconductor device, and wiring substrates.

IT 430437-11-9P

(pos. photoresist composition containing polymer with fluoro-aliphatic group)

RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA

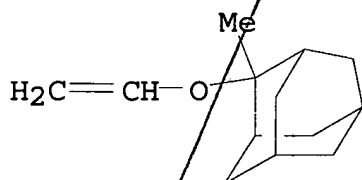
INDEX

NAME)

CM 1

CRN 430437-10-8

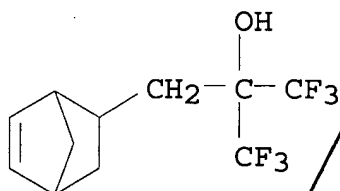
CMF C13 H20 O



CM 2

CRN 196314-61-1

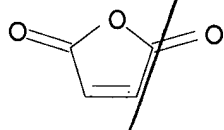
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-004
ICS C08F020-22; C08F020-38; C08F020-54; C08F020-68; C08F020-70;
G03F007-033; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl
methacrylate copolymer 262617-13-0P 328061-11-6P

350992-58-4P	351197-82-5P	359635-35-1P	364736-22-1P
367283-78-1P	391232-36-3P	398140-38-0P	398140-43-7P
398140-45-9P	398140-57-3P	398140-64-2P	398140-69-7P
398140-79-9P	398140-86-8P	398140-87-9P	398140-88-0P
398140-89-1P	398141-00-9P	398141-11-2P	398141-14-5P
430436-66-1P	430436-67-2P	430436-68-3P	430436-70-7P
430436-72-9P	430436-74-1P	430436-76-3P	430436-78-5P
430436-79-6P	430436-81-0P	430436-82-1P	430436-84-3P
430436-85-4P	430436-86-5P	430436-87-6P	430436-89-8P
430436-90-1P	430436-91-2P	430436-92-3P	430436-94-5P
430436-95-6P	430436-97-8P	430436-98-9P	430436-99-0P
430437-01-7P	430437-03-9P	430437-04-0P	430437-05-1P
430437-07-3P	430437-09-5P	430437-11-9P	430437-12-0P
430437-13-1P	430437-14-2P	430437-15-3P	430437-17-5P
430437-18-6P	430437-19-7P	430437-21-1P	430437-22-2P
430437-24-4P	431062-12-3P	431062-14-5P	431062-16-7P
431062-17-8P	431062-18-9P	431062-20-3P	431062-22-5P
482609-97-2P	503003-64-3P	524699-47-6P	532989-17-6P

601490-00-0P 601490-01-1P 601490-02-2P 601490-03-3P
(pos. photoresist composition containing polymer with
fluoro-aliphatic
group)

L8 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:369197 HCAPLUS
DOCUMENT NUMBER: 138:393073
TITLE: Positive-working photoresist composition
containing fluoro-substituted nitrogen
compound
INVENTOR(S): Fujimori, Toru; Kanna, Shinichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	---	-----	-----

JP 2003140349	A2	20030514	JP 2001-339439

2001

1105

PRIORITY APPLN. INFO.: JP 2001-339439

2001

1105

AB The composition contains (A) a polymer with F-substituted main
chain or
side chain and becomes soluble in alkaline developer by the
decomposition
caused by an acid, (B) a compound generating acid by actinic ray
or
radiation, and (C) a nitrogen compound containing ≥ 1 F atom.
The
composition gives clear pattern without development defect.
IT 430437-11-9P
(pos. photoresist containing F-containing alkali-soluble
polymer, acid

generator, and F-containing nitrogen compound)

RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA

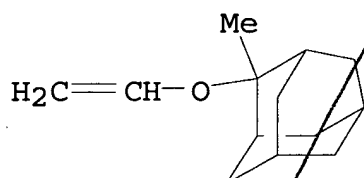
INDEX

NAME)

CM 1

CRN 430437-10-8

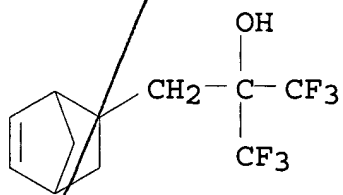
CMF C13 H20 O



CM 2

CRN 196314-61-1

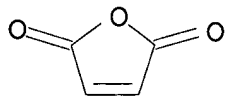
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039
 ICS C08F012-22; C08F014-26; C08F014-28; C08F016-26; C08F016-38;
 C08F020-22; C08F020-28; C08F020-44; C08F032-04; G03F007-004;
 H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38

IT	143643-34-9P	262617-13-0P	370866-13-0P	370866-15-2P
	397302-29-3P	430436-67-2P	430436-68-3P	430436-70-7P
	430436-72-9P	430436-74-1P	430436-76-3P	430436-78-5P
	430436-79-6P	430436-81-0P	430436-82-1P	430436-84-3P
	430436-85-4P	430436-86-5P	430436-87-6P	430436-89-8P
	430436-90-1P	430436-92-3P	430436-94-5P	430436-98-9P
	430436-99-0P	430437-01-7P	430437-03-9P	430437-04-0P
	430437-05-1P	430437-09-5P	430437-11-9P	430437-12-0P
	430437-13-1P	430437-17-5P	430437-18-6P	430437-19-7P
	430437-21-1P	430437-22-2P	430437-24-4P	430437-27-7P
	430437-29-9P	430437-33-5P	430437-36-8P	430437-37-9P
	430437-39-1P	430437-40-4P	431062-12-3P	431062-14-5P
	431062-16-7P	431062-17-8P	431062-18-9P	431062-20-3P
	431062-22-5P	487048-93-1P	524952-65-6P	524952-66-7P
	524952-68-9P	524952-69-0P	524952-70-3P	524952-71-4P
	524952-72-5P	524952-73-6P	524952-74-7P	

(pos. photoresist containing F-containing alkali-soluble
 polymer, acid
 generator, and F-containing nitrogen compound)

L8 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:366812 HCAPLUS

DOCUMENT NUMBER: 138:369658

TITLE: Fluorine-containing norbornene polymers and
 their uses for antireflective films,
 photosensitive coatings, and resists
 INVENTOR(S): Koga, Tadashi; Maeda, Kazuhiko
 PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

JP 2003137940	A2	20030514	JP 2001-339982

2001

1105

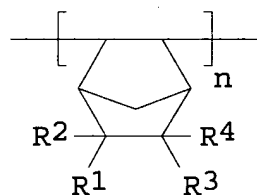
PRIORITY APPLN. INFO.:

JP 2001-339982

2001

1105

GI



I

AB The polymers comprise norbornene repeating units I (R1-R4 = H, halo, C1-20 alkyl, CO₂H, OH, cyano, etc.; ≥1 of R1-R4 = F-containing group) and repeating units CR₅R₆R₇ (R₅, R₆ = alkyl, fluoroalkyl; R₅ and/or R₆ = fluoroalkyl; R₇ = O, CH₂). Thus, 39.70 g 3-(5-bicyclo[2.2.1]hepten-2-yl)-1,1,1-trifluoro-2-trifluoromethyl-2-propanol was polymerized with 10.30 g (F₃C)₂CO to give copolymer, which was made into a film showing 650-nm light reflectance 0.98% and good weather resistance.

IT 521949-39-3P

(manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

RN 521949-39-3 HCAPLUS

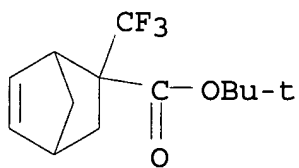
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol,

2,5-furandione and 3,3,3-trifluoro-2-(trifluoromethyl)-1-propene
(9CI) (CA INDEX NAME)

CM 1

CRN 365568-55-4

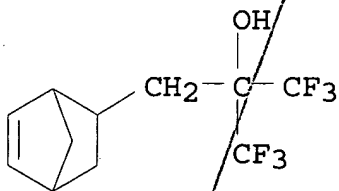
CMF C13 H17 F3 O2



CM 2

CRN 196314-61-1

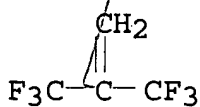
CMF C11 H12 F6 O



CM 3

CRN 382-10-5

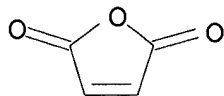
CMF C4 H2 F6



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM C08F232-08
 ICS C09D127-12; C09D145-00
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38, 74
 IT 521949-34-8P 521949-35-9P 521949-36-0P 521949-37-1P
 521949-38-2P **521949-39-3P**

(manufacture of F-containing norbornene polymers for
 antireflective
 films, photosensitive coatings, and resists)

L8 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:334607 HCAPLUS
 DOCUMENT NUMBER: 138:346488
 TITLE: Pattern formation method
 INVENTOR(S): Endo, Masayuki; Sasago, Masaru
 PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd.,
 Japan
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
US 2003082926	A1	20030501	US 2002-279070
US 6841488	B2	20050111	
JP 2003140360	A2	20030514	JP 2001-334168

PRIORITY APPLN. INFO.:

JP 2001-334168

A

2001

1031

AB A resist film is formed from a chemical amplified resist material including a base polymer having a protecting group released by a function of an acid, an acrylic compound and an acid generator that generates an acid when irradiated with light. The resist film is selectively irradiated with exposing light for pattern exposure, and is developed after the pattern exposure so as to form a resist pattern having a hole or groove opening. The size of the opening is reduced by irradiating the resist pattern with light with annealing.

IT 518027-89-9
(pattern formation method containing)

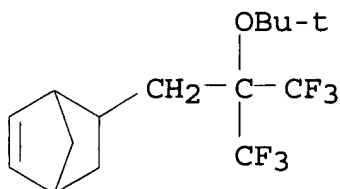
RN 518027-89-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 5-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-83-2

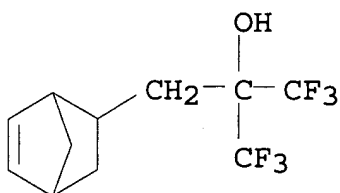
CMF C15 H20 F6 O



CM 2

CRN 196314-61-1

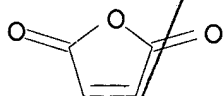
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM H01L021-311

ICS H01L021-302; H01L021-461; H01L021-31; H01L021-469

NCL 438780000; 430005000; 438725000; 438710000; 438708000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38

IT 153723-75-2, tert-Butoxystyrene-hydroxystyrene copolymer
154444-26-5, tert-Butoxycarbonyloxystyrene-hydroxystyrene
copolymer 170283-35-9 177080-68-1, 2-Methyl-2-adamantyl
methacrylate-mevalonic lactone methacrylate copolymer
186676-37-9 188778-57-6, tert-Butoxycarbonylmethyloxystyrene-
hydroxystyrene copolymer 195000-67-0 195154-78-0
195154-83-7

250378-10-0 518027-82-2 518027-83-3 518027-84-4

518027-85-5 518027-86-6 518027-87-7 518027-88-8

518027-89-9 518027-90-2 518027-91-3 518027-92-4

518027-93-5 518047-92-2 518047-95-5

(pattern formation method containing)

L8 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:282017 HCAPLUS

DOCUMENT NUMBER: 138:311568

TITLE: Chemical amplification type positive resist
composition

INVENTOR(S): Takata, Yoshiyuki; Fujishima, Hiroaki;
Uetani,

Yasunori

PATENT ASSIGNEE(S): Japan
 SOURCE: U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.
----- -----	----- -----	----	----- -----	----- -----
2002	US 2003068573	A1	20030410	US 2002-207997
0731	TW 573229	B	20040121	TW 2002-91117263
2002				
0730	JP 2003114523	A2	20030418	JP 2002-224526
2002				
0801	PRIORITY APPLN. INFO.:			JP 2001-234649 A
2001				
0802				
OTHER SOURCE(S):	MARPAT 138:311568			
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

*

AB A chemical amplification type pos. photoresist composition is provided which gives resist patterns showing remarkably improved line edge roughness. A chemical amplification type pos. photoresist composition

I comprises an acid generator containing a benzenesulfonate ion of
 (Q1-5 = H, hydroxyl group, perfluoroalkyl group, alkyl group,
 alkoxy group, halogen); and a resin having a polymerization unit
 carrying
 a group unstable to an acid and polymerization unit of an
 alicyclic
 lactone of formula II, III (R1-4 = H, Me group; n = 1-3).

IT 509097-33-0P
 (resin; acid generation for chemical amplification type pos.
 resist composition)

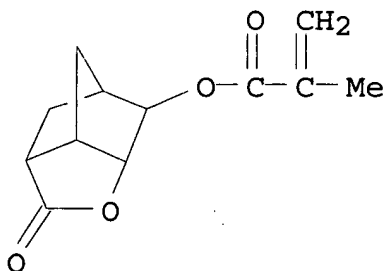
RN 509097-33-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.
 2.1]hept-5-ene-2-ethanol, 2,5-furandione and hexahydro-2-oxo-3,5-
 methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate (9CI)
 (CA INDEX NAME)

CM 1

CRN 254900-07-7

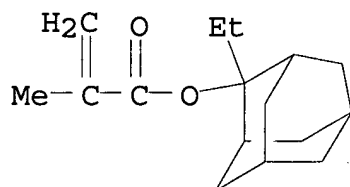
CMF C12 H14 O4



CM 2

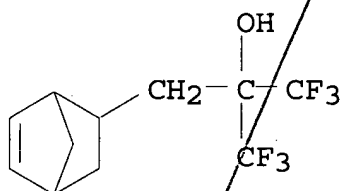
CRN 209982-56-9

CMF C16 H24 O2



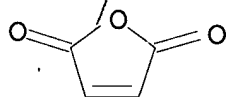
CM 3

CRN 196314-61-1
CMF C11 H12 F6 O



CM 4

CRN 108-31-6
CMF C4 H2 O3



IC ICM G03F007-004
NCL 430270100; 430914000; 430921000; 430910000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
IT **509097-33-0P**
(resin; acid generation for chemical amplification type pos. resist composition)

L8 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:241052 HCAPLUS

DOCUMENT NUMBER: 138:262693
 TITLE: Positive photoresist composition
 INVENTOR(S): Fujimori, Toru; Kawabe, Yasumasa
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 101 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.	
2002	EP 1296190	A1	20030326	EP 2002-21204	
0918	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE; MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK JP 2003167333	A2	20030613	JP 2002-563	
2002	0107	US 2003134225	A1	20030717	US 2002-244070
2002	0916	PRIORITY APPLN. INFO.:		JP 2001-285180	A
2001	0919			JP 2002-563	A
2002	0107				

AB A pos. resist composition comprises the components of: (A) a compound

capable of generating an acid upon irradiation with one of an actinic ray and a radiation; (B) a resin that is insol. or slightly soluble in alkalis, but becomes alkali-soluble under an action of an acid; (C) a basic compound; and (D) a compound comprising at least three hydroxyl groups or at least three substituted hydroxyl groups, and comprising at least one cyclic structure. The present invention relates to a pos. resist composition used in a process of manufacture semiconductors and which far UV light with wavelengths \leq 250 nm is used as an exposure light source or an electron beam is used as an irradiation source.

IT 430437-11-9P

(pos. photoresist composition containing)

RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA

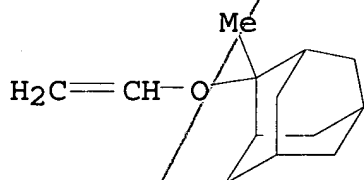
INDEX

NAME)

CM 1

CRN 430437-10-8

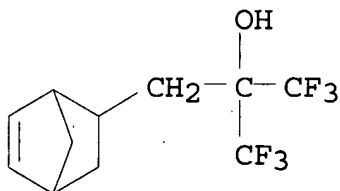
CMF C13 H20 O



CM 2

CRN 196314-61-1

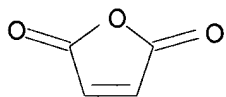
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

IT 24979-70-2DP, VP15000, reaction product with Et vinyl ether

129674-22-2P 159296-87-4P 177034-73-0P 177034-75-2P

199432-82-1P 200808-68-0P 228101-60-8P 250378-10-0P,

Butyrolactone methacrylate-2-ethyl-2-adamantylmethacrylate

copolymer 262617-13-0P 288303-55-9P 288620-13-3P

288620-15-5P 289706-85-0P 325143-38-2P 326591-96-2P

364736-22-1P 372968-15-5P 391232-36-3P 398140-38-0P

398140-43-7P 398140-45-9P 398140-47-1P 398140-50-6P

398140-52-8P 398140-55-1P 398140-57-3P 398140-59-5P

398140-64-2P 398140-69-7P 398140-73-3P 398140-77-7P

398140-78-8P 398140-79-9P 398140-81-3P 398140-86-8P

398140-87-9P 398140-88-0P 398140-89-1P 398140-94-8P

398141-00-9P 398141-11-2P 398141-13-4P 398141-14-5P

405509-18-4P 430436-66-1P 430436-67-2P 430436-68-3P

430436-70-7P 430436-72-9P 430436-74-1P 430436-76-3P

430436-78-5P 430436-79-6P 430436-81-0P 430436-82-1P

430436-84-3P 430436-85-4P 430436-86-5P 430436-87-6P

430436-89-8P 430436-90-1P 430436-91-2P 430436-92-3P

430436-94-5P 430436-95-6P 430436-97-8P 430436-98-9P

430436-99-0P 430437-09-5P **430437-11-9P** 430437-12-0P

430437-13-1P 430437-14-2P 430437-15-3P 430437-17-5P

430437-18-6P 430437-19-7P 430437-21-1P 430437-22-2P

430437-24-4P 431062-12-3P 431062-14-5P 431062-16-7P
431062-17-8P 503003-64-3P 503003-65-4P

(pos. photoresist composition containing)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS
AVAILABLE
IN THE RE FORMAT

L8 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:111386 HCAPLUS

DOCUMENT NUMBER: 138:145076

TITLE: Chemically amplified positive-working
photoresist composition

INVENTOR(S): Araki, Kaori; Kuwana, Koji; Uetani, Yasunori

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

JP 2003043689	A2	20030213	JP 2001-234648

2001

0802

PRIORITY APPLN. INFO.: JP 2001-234648

2001

0802

AB Title resist composition, suitable for use in ArF or KrF excimer
laser

lithog. and having good balance of resolution and sensitivity,
comprises an acid-forming agent and an alkali-insol. resin
component which contains structural units derived from monomer
ACH₂(CR₁R₂)nCR₃R₄OH (A = 2-norbornen-5-yl; n = 0-4; R₁, R₂ = H,
C₁-4 alkyl; R₃, R₄ = C₁-6 alkyl including at least one
fluorine-substituted alkyl) and is becomes soluble in alkali by
reacting with an acid.

IT 492470-60-7P

(chemical amplified pos.-working photoresist composition
containing

photosensitive acid generator)

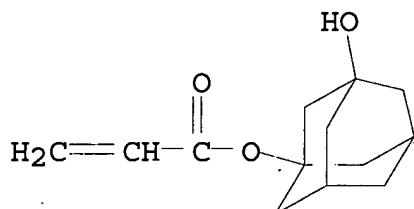
RN 492470-60-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl
ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.
2.1]hept-5-ene-2-ethanol, 2,5-furandione and 3-
hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate (9CI) (CA INDEX
NAME)

CM 1

CRN 216581-76-9

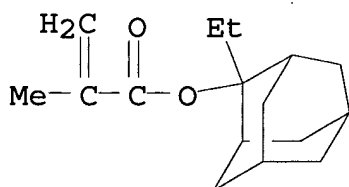
CMF C13 H18 O3



CM 2

CRN 209982-56-9

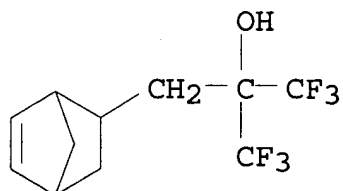
CMF C16 H24 O2



CM 3

CRN 196314-61-1

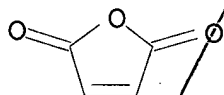
CMF C11 H12 F6 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

ICS C08F032-04; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76

IT 492470-60-7P

(chemical amplified pos.-working photoresist composition
containing
photosensitive acid generator)

L8 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:110930 HCAPLUS

DOCUMENT NUMBER: 138:178230

TITLE: Fluorine-containing bicycloheptyl acrylates,
their manufacture, their transparent
polymers,

and photoresists and antireflective materials
using them

INVENTOR(S): Kakuta, Shinichi; Komoritani, Haruhiko;
Maeda,

Kazuhiko

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 2003040926	A2	20030213	JP 2001-226582

2001

0726

PRIORITY APPLN. INFO.:

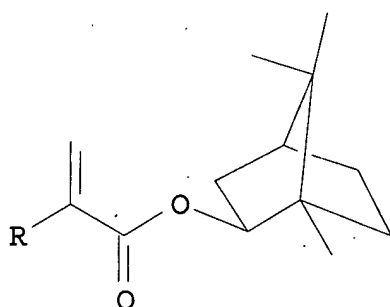
JP 2001-226582

2001

0726

OTHER SOURCE(S):
GI

MARPAT 138:178230



I

AB The invention relates to F-containing acrylates I (R = F, C1-10-fluorohydrocarbyl). The polymers may comprise other acrylates, norbornenes, styrene derivs., or vinyl ethers.

IT **496954-73-5P**

(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

RN 496954-73-5 HCAPLUS

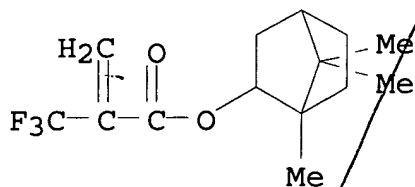
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 1,7,7-

trimethylbicyclo[2.2.1]hept-2-yl 2-(trifluoromethyl)-2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 496954-69-9

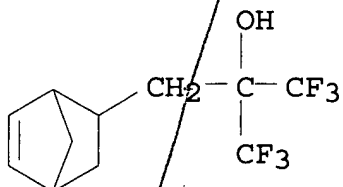
CMF C14 H19 F3 O2



CM 2

CRN 196314-61-1

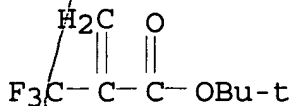
CMF C11 H12 F6 O



CM 3

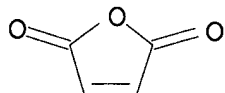
CRN 105935-24-8

CMF C8 H11 F3 O2



CM 4

CRN 108-31-6
CMF C4 H2 O3



IC ICM C08F020-22
ICS C07C067-04; C07C069-653; G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 496954-70-2P 496954-71-3P 496954-72-4P **496954-73-5P**
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

L8 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:907052 HCAPLUS
DOCUMENT NUMBER: 138:9662
TITLE: Negative photoresist composition for a method for fabricating a semiconductor device
INVENTOR(S): Kozawa, Miwa; Nozaki, Koji; Watanabe, Keiji; Yano, Ei
PATENT ASSIGNEE(S): Fujitsu Limited, Japan
SOURCE: U.S. Pat. Appl. Publ., 24 pp., Cont.-in-part of U.S. Ser. No. 785,306.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
US 2002177070	A1	20021128	US 2002-97818
US 2001036594	A1	20011101	US 2001-785306

2002
0315
2001
0220

JP 2001343748

A2

20011214

JP 2001-93727

2001

0328

PRIORITY APPLN. INFO.:

JP 2000-89790

A

2000

0328

US 2001-785306

A2

2001

0220

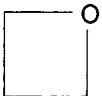
JP 2001-93727

A

2001

0328

GI



I

AB The present invention relates to a neg. photoresist composition containing

an alkaline-soluble resin as a base material, in which an oxetane structure represented by I is contained in a structure of the alkaline-soluble resin or in a structure of a compound used in combination with the alkaline-soluble resin.

IT 477327-49-4P

(neg. photoresist composition for method for fabricating semiconductor device containing)

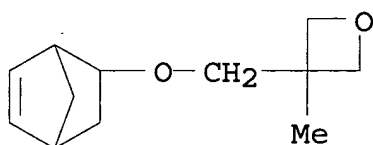
RN 477327-49-4 HCAPLUS

CN 2,5-Furandione, polymer with 3-[(bicyclo[2.2.1]hept-5-en-2-
yloxy)methyl]-3-methyloxetane and α,α -
bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA
INDEX NAME)

CM 1

CRN 477327-48-3

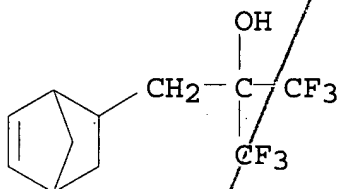
CMF C12 H18 O2



CM 2

CRN 196314-61-1

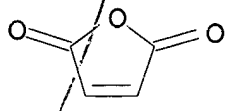
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-038

ICS G03F007-075; G03F007-004; G03F007-11; G03F007-36;
G03F007-30;

G03F007-40

NCL 430270100; 430271100; 430325000; 430326000; 430311000; 430313000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

IT 343615-46-3P 370588-70-8P 477327-40-5P 477327-41-6P

477327-43-8P 477327-44-9P 477327-45-0P 477327-47-2P

477327-49-4P 477327-50-7P 477327-51-8P 477327-52-9P

477327-54-1P 477327-55-2P 477327-63-2P 477327-73-4P

(neg. photoresist composition for method for fabricating
semiconductor device containing)

L8 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:392162 HCAPLUS

DOCUMENT NUMBER: 136:409022

TITLE: Positive resist composition

INVENTOR(S): Aoai, Toshiaki; Yasunami, Shoichiro;
Mizutani,

Kazuyoshi; Kanna, Shinichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 56 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
-----	----	-----	-----
US 2002061464	A1	20020523	US 2001-961281
2001			
0925			
US 6852467	B2	20050208	
JP 2002333715	A2	20021122	JP 2001-202298
2001			
0703			
TW 528931	B	20030421	TW 2001-90123599
2001			

0925
PRIORITY APPLN. INFO.: JP 2000-292537 A

2000

0926
JP 2000-379284 A

2000

1213
JP 2001-62158 A

2001

0306
JP 2001-202298 A

2001

0703

AB The present invention relates to a pos. resist composition comprising:

(A) a fluorine group-containing resin having at least one fluorine atom on at least one of the main chain and the side chain of the polymer skeleton; and having a group capable of decomposing under the action of an acid to increase the solubility in an alkali developer;

(B) a compound capable of generating an acid upon irradiation with one of actinic ray and radiation; and (C) a surfactant containing at least

one of a silicon atom and a fluorine atom. The present invention provides a pos. photoresist composition suitable for use in the microlithog. process in the production of VLSI or high-capacity microchip, or in other photo-fabrication processes. The invention

pos. photoresist composition is capable of forming a highly definite pattern using a vacuum UV ray of < 160 nm.

IT 430437-11-9P

(fluorine group-containing resin for pos. resist composition)

RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA

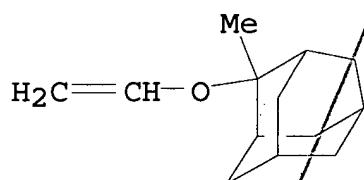
INDEX

NAME)

CM 1

CRN 430437-10-8

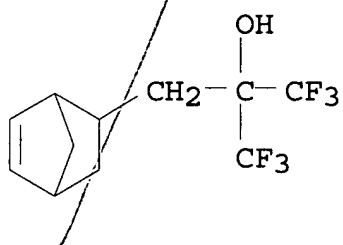
CMF C13 H20 O



CM 2

CRN 196314-61-1

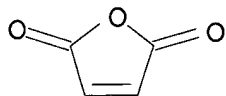
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-004

NCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

IT	262617-13-0P	430436-66-1P	430436-67-2P	430436-68-3P
	430436-70-7P	430436-72-9P	430436-74-1P	430436-76-3P
	430436-78-5P	430436-79-6P	430436-81-0P	430436-82-1P
	430436-84-3P	430436-85-4P	430436-86-5P	430436-87-6P
	430436-89-8P	430436-90-1P	430436-91-2P	430436-92-3P
	430436-94-5P	430436-95-6P	430436-97-8P	430436-98-9P
	430436-99-0P	430437-01-7P	430437-03-9P	430437-04-0P
	430437-05-1P	430437-07-3P	430437-09-5P	430437-11-9P
	430437-12-0P	430437-13-1P	430437-14-2P	430437-15-3P
	430437-17-5P	430437-18-6P	430437-19-7P	430437-21-1P
	430437-22-2P	430437-24-4P	430437-26-6P	430437-27-7P
	430437-29-9P	430437-30-2P	430437-32-4P	430437-33-5P
	430437-34-6P	430437-35-7P	430437-36-8P	430437-37-9P
	430437-38-0P	430437-39-1P	430437-40-4P	430437-42-6P
	430437-44-8P	430437-46-0P	431062-12-3P	431062-14-5P
	431062-16-7P	431062-17-8P	431062-18-9P	431062-20-3P
	431062-22-5P	431062-24-7P	431062-25-8P	

(fluorine group-containing resin for pos. resist composition)

L8 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:169230 HCAPLUS

DOCUMENT NUMBER: 136:224210

TITLE: Negative resist composition and
photolithographic process for manufacturing
of

electronic devices

INVENTOR(S): Nozaki, Koji; Yano, Ei; Kozawa, Miwa

PATENT ASSIGNEE(S): Fujitsu Limited, Japan

SOURCE: Eur. Pat. Appl., 47 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			

 EP 1184723 A2 20020306 EP 2001-307380

2001

0830

EP 1184723 A3 20030917
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO
 JP 2002148805 A2 20020522 JP 2001-168630

2001

0604

US 2002058197 A1 20020516 US 2001-935832

2001

0824

US 6770417 B2 20040803
 PRIORITY APPLN. INFO.: JP 2000-266041 A

2000

0901

JP 2001-168630 A

2001

0604

AB A neg. resist composition is provided which comprises at least a constituent component which has a vinyl ether structure protected with an acetal in a mol. In the formation of neg. resist patterns, an aqueous basic solution can be used without swelling. A process is also provided for forming a resist pattern, which comprises the steps of: applying a neg. resist composition comprising at least a constituent component which has a vinyl ether structure protected with an acetal in a mol., on a treated substrate; selectively exposing the formed resist film to imaging radiation capable of provoking decomposition of a photoacid generator of the

resist composition, and developing the exposed resist film with an aqueous

basic solution A process is also provided for manufacturing an electronic

device, which comprises the step of selectively removing an underlying treated substrate using a resist pattern, formed from the above-mentioned process, as a masking means to form a predetd.

functional element layer.

IT 402751-22-8P

(neg. resist composition and photolithog. process for fabrication of

MOS transistors and thin-film magnetic heads)

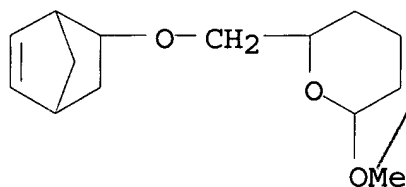
RN 402751-22-8 HCAPLUS

CN 2,5-Furandione, polymer with 2-[(bicyclo[2.2.1]hept-5-en-2-yloxy)methyl]tetrahydro-6-methoxy-2H-pyran and α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 402751-21-7

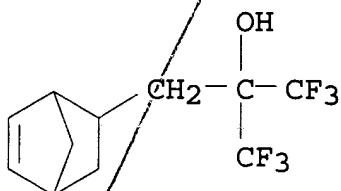
CMF C14 H22 O3



CM 2

CRN 196314-61-1

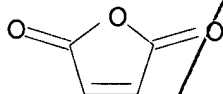
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 33693-68-4DP, reaction products with 2-cyanoethyltrichlorosilane hydrolytic homopolymer 181036-41-9DP, 2-Cyanoethyltrichlorosilane hydrolytic homopolymer, reaction products with 2(3H)-Furanone, 3-bromodihydro-4-methyl- and 2-methoxy-6-bromomethyltetrahydropyran 402751-01-3P 402751-04-6P 402751-07-9P 402751-09-1P 402751-11-5P 402751-17-1P **402751-22-8P** 402751-28-4P 402751-34-2P 402751-50-2P 402751-54-6P 402751-56-8P 402751-59-1DP, reaction products with 2-cyanoethyltrichlorosilane hydrolytic homopolymer 402755-85-5P 402758-23-0P

(neg. resist composition and photolithog. process for fabrication of

MOS transistors and thin-film magnetic heads)

L8 ANSWER 20 OF 22, HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:918945 HCAPLUS

DOCUMENT NUMBER: 136:45683

TITLE: Radiation-sensitive resin composition for chemical amplified resist

INVENTOR(S): Nishimura, Yukio; Yamahara, Noboru; Yamamoto, Masafumi; Kajita, Toru; Shimokawa, Tsutomu; Ito, Hiroshi

PATENT ASSIGNEE(S): JSR Corporation, Japan; International Business

SOURCE: Machines Corporation
Eur. Pat. Appl., 63 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.
2001	EP 1164434	A2	20011219	EP 2001-114503
0615	EP 1164434	A3	20041222	
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	JP 2002072484	A2	20020312	JP 2001-108824
2001				
0406	US 2002009668	A1	20020124	US 2001-879894
2001				
0614	US 6800414	B2	20041005	
	SG 100729	A1	20031226	SG 2001-3498
2001				
0614	CN 1332205	A	20020123	CN 2001-124927
2001				
0615	TW 536661	B	20030611	TW 2001-90114559
2001				
0615	US 2004241580	A1	20041202	US 2004-867892
2004				
0616	PRIORITY APPLN. INFO.:			
			JP 2000-182297	A
2000				

0616

JP 2001-108824 A

2001

0406

US 2001-879894 A1

2001

0614

OTHER SOURCE(S): MARPAT 136:45683

AB A radiation-sensitive resin composition comprising an acid-labile group-containing resin and a photoacid generator is disclosed.

The

resin has a structure of $X_1R_2COR_1$ ($R_1 = H$, monovalent acid-labile group, C1-6 alkyl which does not have an acid-labile group, C2-7 alkylcarbonyl which does not have an acid-labile group; $X_1 = C1-4$ fluorinated alkyl; and $R_2 = H$, C1-10 alkyl, C1-10 fluorinated alkyl). The resin composition exhibits high transmittance of radiation, high sensitivity, resolution, and pattern shape, and

is

useful as a chemical amplified resist in producing semiconductors at a high yield.

IT 380886-63-5P 380886-66-8P 380886-68-0P
380886-69-1P 380886-70-4P 380886-71-5P
380886-78-2P 380886-79-3P 380886-80-6P

(acid-labile group-containing resin for radiation-sensitive resist composition)

RN 380886-63-5 HCAPLUS

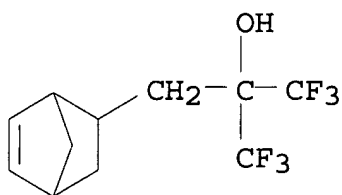
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX

NAME)

CM 1

CRN 196314-61-1

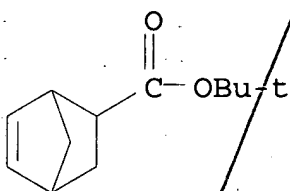
CMF C11 H12 F6 O



CM 2

CRN 154970-45-3

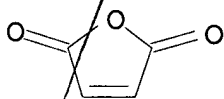
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



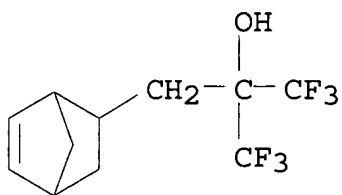
RN 380886-66-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

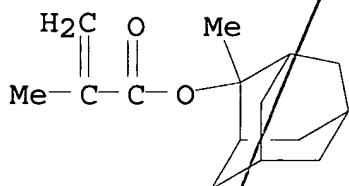
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

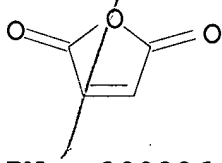
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



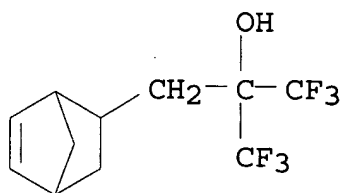
RN 380886-68-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

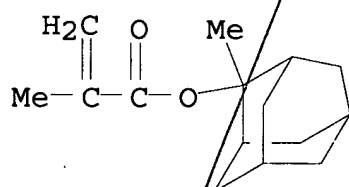
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

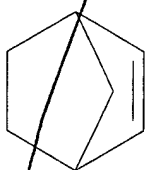
CMF C15 H22 O2



CM 3

CRN 498-66-8

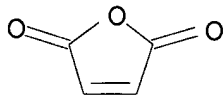
CMF C7 H10



CM 4

CRN 108-31-6

CMF C4 H2 O3



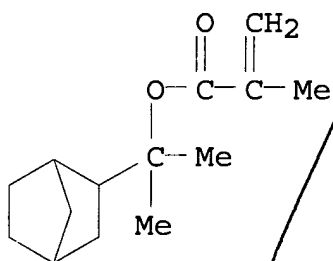
RN 380886-69-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-bicyclo[2.2.1]hept-2-yl-1-methylethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 342014-18-0

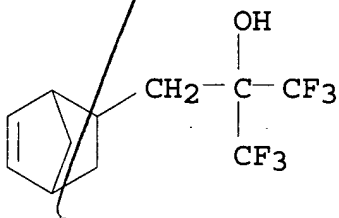
CMF C14 H22 O2



CM 2

CRN 196314-61-1

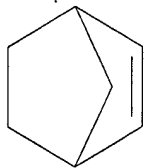
CMF C11 H12 F6 O



CM 3

CRN 498-66-8

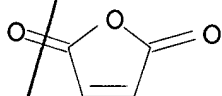
CMF C7 H10



QM 4

CRN 108-31-6

CMF C4 H2 O3



RN 380886-70-4 HCAPLUS

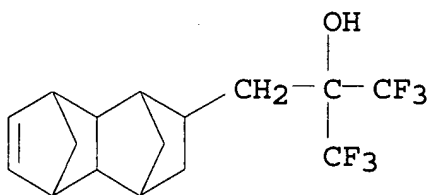
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione and

1,2,3,4,4a,5,8,8a-octahydro-
α,α-bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-
2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 365533-00-2

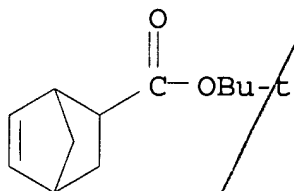
CMF C16 H18 F6 O



CM 2

CRN 154970-45-3

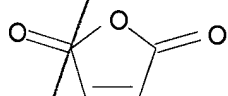
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



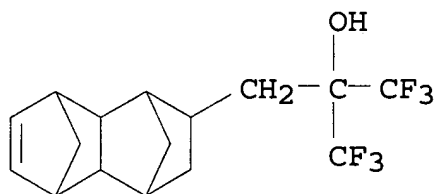
RN 380886-71-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-bicyclo[2.2.1]hept-2-yl-1-methylethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, 2,5-furandione and 1,2,3,4,4a,5,8,8a-octahydro- α,α -bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

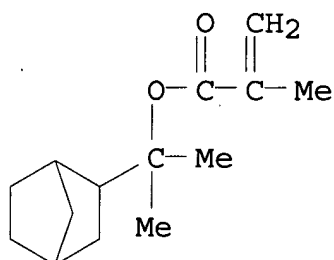
CRN 365533-00-2

CMF C16 H18 F6 O



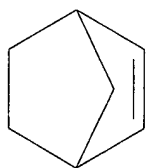
CM 2

CRN 342014-18-0
CMF C14 H22 O2



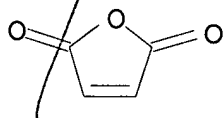
CM 3

CRN 498-66-8
CMF C7 H10



CM 4

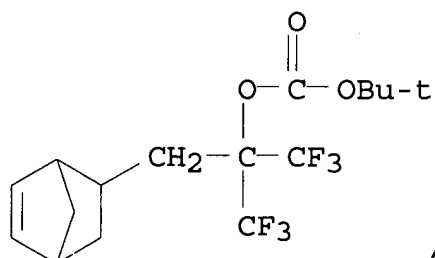
CRN 108-31-6
CMF C4 H2 O3



RN 380886-78-2 HCAPLUS
CN Carbonic acid, 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

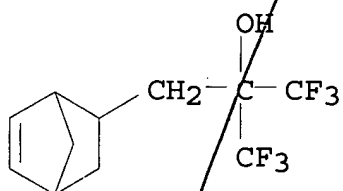
CM 1

CRN 196314-63-3
CMF C16 H20 F6 O3



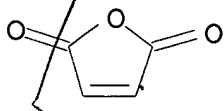
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



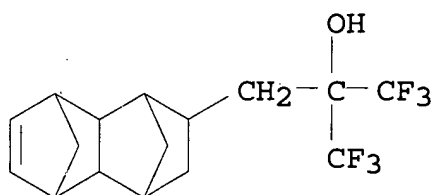
RN 380886-79-3 HCAPLUS
CN Carbonic acid, 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl ester, polymer with 2,5-furandione and 1,2,3,4,4a,5,8,8a-octahydro- α,α -bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-

2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 365533-00-2

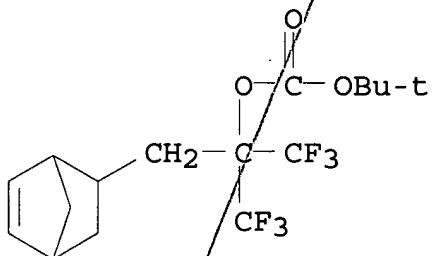
CMF C16 H18 F6 O



CM 2

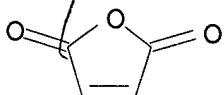
CRN 196314-63/-3

CMF C16 H20 /F6 O3



CM / 3

CRN 108-31-6

C4H2O3

RN 380886-80-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methylcyclopentyl

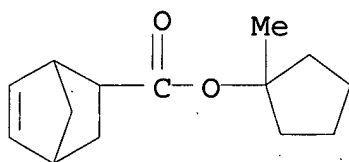
ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX

NAME)

CM 1

CRN 369648-89-5

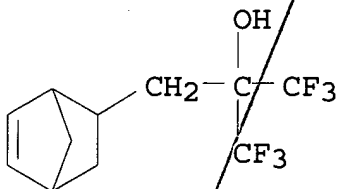
CMF C14 H20 O2



CM 2

CRN 196314-61-1

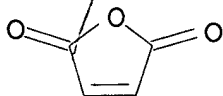
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-004

ICS G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

IT 370099-14-2P 370102-83-3P 380886-62-4P **380886-63-5P**
380886-66-8P 380886-68-0P 380886-69-1P
380886-70-4P 380886-71-5P 380886-72-6DP,
hydrogenated 380886-72-6P 380886-73-7DP, hydrogenated
380886-74-8DP, hydrogenated 380886-74-8P 380886-75-9DP,
hydrogenated 380886-76-0DP, hydrogenated 380886-76-0P
380886-77-1DP, hydrogenated **380886-78-2P**
380886-79-3P 380886-80-6P 380886-81-7P
380886-82-8P 380886-83-9P 380915-67-3P
(acid-labile group-containing resin for radiation-sensitive
resist composition)

L8 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:636379 HCAPLUS
DOCUMENT NUMBER: 135:218727
TITLE: Resist materials for 157-nm lithography
INVENTOR(S): Fedynyshyn, Theodore H.
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, Inc.,
USA
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

WO 2001063362	A2	20010830	WO 2001-US5907
2001			
0226			
WO 2001063362	A3	20020307	
W: CA, JP			
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,			
MC, NL, PT, SE, TR			
US 6468712	B1	20021022	US 2000-513792
2000			
0225			

EP 1257880 A2 20021120 EP 2001-911149

2001

0226

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, FI, CY, TR
JP 2003524211 T2 20030812 JP 2001-562262

2001

0226

US 2003157431 A1 20030821 US 2002-271807

2002

1016

US 6815145 B2 20041109
PRIORITY APPLN. INFO.: US 2000-513792 A

2000

0225

WO 2001-US5907 W

2001

0226

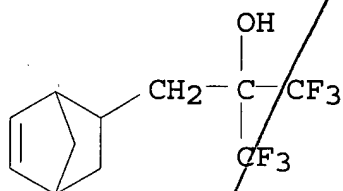
AB The invention relates to photoresist materials useful in microlithog. and to improved materials and methods for pattern formation on semiconductor wafers. A radiation sensitive resin composition including a photo-acid generator and an aliphatic polymer having ≥ 1 electron withdrawing groups adjacent to or attached to a C atom bearing a protected hydroxyl group, wherein the protecting group is labile in the presence of in situ generated acid is described. The radiation sensitive resin composition can be used as a resist suitable for image transfer by plasma etching and enable 1 to obtain an etching image having high precision with high reproducibility with a high degree of resolution and selectivity.

IT 357397-09-2D, functional-group protected
 (pos. photoresist composition for 157-nm lithog. using)

RN 357397-09-2 HCAPLUS
 CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1
 CMF C11 H12 F6 O



CM 2

CRN 108-31-6
 CMF C4 H2 O3



IC ICM G03F007-00
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 25211-99-8D, functional-group protected 25568-84-7D, Cyclopentadiene homopolymer, reaction products with hexafluoroacetone, functional-group protected 219552-58-6D, functional-group protected 357397-03-6 357397-04-7D, functional-group protected 357397-05-8D, functional-group protected 357397-06-9D, functional-group protected 357397-07-0D, functional-group protected 357397-08-1D, functional-group protected 357397-09-2D, functional-group protected 357397-11-6D, functional-group protected 357397-12-7D, functional-group protected (pos. photoresist composition for 157-nm lithog. using)

L8 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:806316 HCAPLUS
DOCUMENT NUMBER: 134:200382
TITLE: Negative-tone 193-nm resists
AUTHOR(S): Cho, Sungseo; Vander Heyden, Anthony; Byers, Jeffrey D.; Willson, C. Grant
CORPORATE SOURCE: Univ. of Texas at Austin, Austin, TX, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2000), 3999(Pt. 1, Advances in Resist Technology and Processing XVII), 62-73
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A great deal of progress has been made in the design of single layer pos. tone resists for 193 nm lithog. Com. samples of such materials are now available from many vendors. The patterning of certain levels of devices profits from the use of neg. tone resists. There have been several reports of work directed toward the design of neg. tones resists for 193 nm exposure but, none have performed as well as the pos. tone systems. Polymers with alicyclic structures in the backbone have emerged as excellent platforms from which to design pos. tone resists for 193 nm exposure. The authors report the adaptation of this class of polymers to the design of high performance neg. tone 193 nm resists. New systems have been prepared that are based on a polarity switch mechanism for modulation of the dissoln. rate. The systems are based on a polar, alicyclic polymer backbone that includes a monomer bearing a glycol pendant group that undergoes the acid catalyzed pinacol rearrangement upon exposure and bake

to

produce the corresponding less polar ketone. This monomer was copolymd. with maleic anhydride and a norbornene bearing a bis-trifluoromethylcarbinol. The rearrangement of the copolymer was monitored by FT-IR as a function of temperature The

synthesis of

the norbornene monomers will be presented together with characterization of copolymers of these monomers with maleic anhydride. The lithog. performance of the new resist system will also be presented.

IT 327610-81-1P

(photoresist for 193 nm lithog. containing terpolymer of maleic

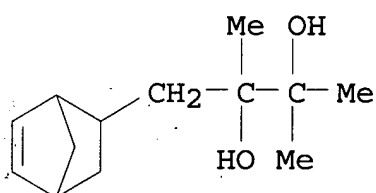
anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

RN 327610-81-1 HCAPLUS
CN 2,5-Furandione, polymer with 1-bicyclo[2.2.1]hept-5-en-2-yl-2,3-dimethyl-2,3-butanediol and α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 327610-80-0

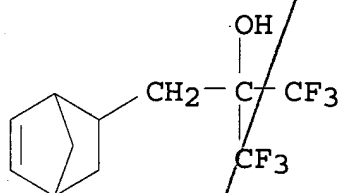
CMF C13 H22 O2



CM 2

CRN 196314-61-1

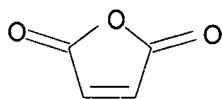
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT 327610-81-1P 327610-82-2P

(photoresist for 193 nm lithog. containing terpolymer of
maleic

anhydride and norbornene with bis-trifluoromethylcarbinol and
norbornene with glycol pendant group that undergoes acid
catalyzed pinacol rearrangement)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS

AVAILABLE

IN THE RE FORMAT